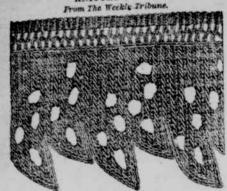
KNITTING AND CROCHET. KNITTED POINT.



Cast on 11 stitches. 1st row: Siip 1, knit 2, over, narrow, knit 1. over twice, narrow, over twice, narrow, knit 1. 2d row: Over (or make 1), knit 3, purl 1, knit 2, purl 1, knit 3, over, narrow, knit 1.

8d row : Slip 1, knit 2, over, narrow, knit rest of the row plain. 4th row: Make 1. knit 11, over, narrow, knit 1. 5th row: Ship 1, knit 2, over, narrow, knit 5,

over twice, narrow, over twice, narrow, knit 1. 6th row: Make 1, knit 3, purl 1, knit 2, purl 1, knit 7, over, narrow, knit 1. 7th row: Slep 1, knit 2, over, narrow, rest plain.

8th row: Cast off 4, knit 10, over, narrow, knit 9th row: Slip 1, knit 2, over, narrow, knit 4, over twice, narrow, over twice, narrow, knit 1. 10th row: Make 1, kuit 1, purl 1, knit 2, purl 1, knit 1, over, narrow, knit 1. 11th row : Slip 1, knit 2, over.narrow, rest plain.

12th row: Make 1, knit 14, over, narrow, knit 13th row: Slip 1, knit 2, over, narrow, knit 8, over twice, narrow, over twice, narrow, knit 1. 14th row: Make 1, knit 3, purl 1, knit 2, purl 1, knit 10, over, narrow, knit 1. 15th row: Slip 1, knit 2, over, narrow, rest

16th row: Cast off 10, knit 1, over, narrow, knit 1. Repeat from 1st row. This is the contribution of

COUNTERPANE-STAR PATTERN. This is one of the square patterns. Cast on 50 stitches. For the border knit 10 rows plain, and in order to save repetition knit 8 stitches plain at the beginning and ending of every row of the pattern proper, which will thus consist of 34 stitches. 1st row : Purl 9, knit 1, purl 14, knit 1, purl 9.

2d and every even row up to the 20th: Plain. 3d row: Purl 9, knit 2, purl 12, knit 2, purl 9. 5th row: Purl 9, knit 3, purl 10, knit 3, purl 9. 7th row : Purl 9, knit 4, purl 8, knit 4, purl 9. 9th row : Parl 9, knit 5, purl 6, knit 5, purl 9. 11th row : Parl 9, knit 6, parl 4, knit 6, parl 9. 13th row: Purl 9, knit 7, purl 2, knit 7, purl 9. 15th row : Puri 9, knit 16, purl 9. 17th row: Purl 1, knit 15, purl 2, knit 15, purl 1.

19th row : Parl 2, knit 13, parl 4, knit 13, parl 2. 21st row: Puri 3, kuit 11, parl 6, knit 11, puri 3. 22d, 24th, 26th and 28th rows: Knit 15, purl 4, knit 15. 23d row : Purl 4, knit 9, purl 2, knit 4, purl 2, knit 9, purl 4.

25th row: Purl 5, knit 7, purl 3, knit 4, purl 3, knit 7, puri 5. 27th row: Purl 6, knit 5, purl 4, knit 4, purl 4, knit 5, purl 6.

29th row : Purl 7, knit 3, purl 1, knit 4, purl 4. knit 4, purl 1, knit 3, purl 7. 30th, 32d and 34th rows: Knit 11, purl 4. knit 4. purl 4. knit 11. 31st row : Parl S. knit 1, purl 2, knit 4, purl 4,

knit 4, purl 2, knit 1, purl 8. 33d row : Purl 8, knit 1, purl 2, knit 4, purl 4. knit 4, purl 2, knit 1, purl 8. S5th row : Purl 7, knit 3, parl 1, knit 4, purl 4,

knit 4, purl 1, knit 3, purl 7. 36th row : Knit 10, purl 1, knit 4, purl 4, knit 4, purl 1, knit 10. 37th row : Purl 6, knit 5, purl 4, knit 4, purl 4,

kuit 5, purl 6. 38th, 40th and 42d rows: Knit 15, purl 4, knit 39th row : Purl 5, knit 7, purl 3, knit 4, purl 3, knit 7, purl 5.

41st row: Purl 4, knit 9, purl 2, knit 4, purl 2, knit 9, purl 4. 43d row : Parl 3, knit 11. parl 6, knit 11, parl 3.

44th, and every even row to the 62d, plain. 45th row: Purl 2, knit 13, purl 4, knit 13, purl 2. 47th row: Parl 1, kuit 15, parl 2, knit 15, parl 1. 49th row: Purl 9, knit 16, purl 9. 51st row: Purl 9, knit 7, purl 2, knit 7, purl 9. 53d row : Parl 9, knit 6, purl 4, knit 6, purl 9. 55th row : Purl 9, knit 5, purl 6, knit 5, purt 9. 57th row: Purl 9, knit 4, purl 8, knit 4, purl 9. 59th row: Purl 9, knit 3, purl 10, knit 3, purl 9. 61st row : Purl 9, knit 2, purl 12, knit 2, purl 9, 63d row : Purl 9, knit 1, purl 14, knit 1, purl 9. Finish off with 10 plain rows to complete the border. This makes one square. It will be noticed that this is not an open pattern, but that the star is made by the contrast of plain and purl stitches.

Patterns worked in this way are often exceedingly LACE IN TWO WIDTHS.

This Department is indebted to Miss E. A. B. for directions for knitting lace in two widths for the neck and sleeves of a dress. Wide Lace .- Cast on 35 stitches. Knit across

plain twice. 1st row: Slip 1, knit 19, over, knit 2 together, knit 3, over, knit 2 together, knit 3, over, knit 2 together, over, knit 2 together, over, knit 1. 2d row; Kuit plain.

3d row: Slip 1, knit 20, over, knit 2 together. knit 3, over, knit 2 together, knit 3, over, knit 2 together, over, knit 2 together, over, knit 1. 4th row : Kuit plain.

5th row: Slip 1, knit 21, over, knit 2 together, knit 3, over, knit 2 together, knit 3, over, knit 2 together, over, knit 2 together, over, knit 1.

6th row : Knit plain. 7th row: Slip 1, knit the rest plain. 8th row: Knit 2 together twice; then cast the

first stitch on the right hand needle over the second, leaving one stitch upon that needle; knit the rest plain. Reneat from 1st row. Narrow Lace .- Cast on 20 stitches and knit across

plain twice. 1strow: Slip 1, knit 9, over, knit 2 together, knit 3, over, knit 2 together, over, knit 2 together,

over, knit 1. 2d row : Knit plain. 3d row: Slip 1, knit 10, over, knit 2 together, knit 3, over, knit 2 together, over, knit 2 together, over, knit 1.

4th row : Knit plain. 5th row: Slip 1, knit 11, over, knit 2 together, knit 3, over, knit 2 together, over, knit 2 together, over, knit 1.

6th row : Knit plain, 7th row: Shp 1, knit the rest plain. 8th row: Knit 2 together, knit 2 together, slip the first states on the right hand needle over the second, leaving one stitch upon that needle; knit the rest plain.

Repeat from 1st row. Use fine thread and

JULIA PATTERN.

This is a pretty patieru for counterpanes or covers for baby carriages, done either in stripes or Squares with double zephyr. In cotton it is not so Make a chain of any uneven number of stitches

1st and 2d rows: Ordinary afghan or crochet tricotes strtch.

3d row: Raise the first, * raise the next, then take the one underneath on the first row. Pull the wool through the lower one, then through the next two loops; then make 1 chain. Raise the next stitch as usual Repeat from ".

of raised stitches—those which stand out above the general level of the work. These can be arranged

4th and 5th rows : Crochet tricotee.

6th row: Like 3d. Repeat these three rows throughout. The appear succe of the stitch can be varied in oldernate stripes or squares by changing the position of the " lumps

in rows or groups, or, in fact, after any desired pattern.

PALM LEAF LACE. This pretty narrow lace is kindly contributed by Cast on 10 stitches and knit across plain.

1st row : Ship 1, knit 1, over, narrow, over, narrow, over 3 times, narrow, over twice, pari 2 to-2d row: Over twice, purl 2 together, knit 2. purl 1, in the next loop knit 1 and purl 1 (that is after drawing the thread through in knitting and before slipping off the stitch bring the

thread forward, and purl a stitch in the same loop ; knit 1, purl 1, knit 1, purl 1, knit 2. 3d row: Slip 1, knit 1, over, narrow, knit 1, over, narrow, knit 4. over twice, purl 2 together.

4th row: Over twice, parl 2 together, knit 5, purl 1, knit 2, purl 1, knit 2, 5th row: Shp 1, knit 1, over, narrow, knit 2,

over, narrow, knit 3, over twice, purl 2 together. 6th row: Over twice, purl 2 together, knit 4, parl 1, knit 3, purl 1, knit 2. 7th row: Slip 1, knit 1, over, narrow, knit 3, over, narrow, knit 2, over twice, purl 2 together,

8th row: Over twice, purl 2 together, knit 3, purl 1, knit 4, parl 1, knit 2. 9th row: Slip 1, kait 1, over, narrow, knit 4, over, narrow, kuit 1, over twice, parl 2 together.

10th row: Over twice, pari 2 together, knit 2. purl 1, knit 5, purl 1, knit 2, 11th row: Slip 1, knit 1, over, narrow, knit 5, over, narrow, over twice, purl 2 together.

12th row: Bind off 3, then tak: the stateb on the right hand needle and put back on to the left hand needle; then over twice, purl 2 together, knit 5, purl 1, knit 2.

SCRAP-BAG.

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CROCHET SHAWLS.—For a round shawl begin in the centre on a chain of 5, and work a round of loops of 4 ch.; I DC, in the centre. Increase at intervals to keep the work in shape. Use needles No. 10, and fine wool. The 3d round is worked in loops of 5 ch.; I DC, in the middle of the loop underneath.—4th round, "3 treble worked as one on the first loop, 5 ch.; repeat from "on each loop. This row is worked throughout; it is increased by making two loops in one; a second stitch "is 3 treble, I ch., 3 treble in the first loop, a DC, in the 2d; repeat from ". In the rows following the treble stitches are worked over the chain dividing the set below. For a square shawl, a very pretty shawl may be worked in alternate rows of color, and forms a checked appearance by the following: A chain the length required, 1si row: "1 treble on the 3d and 4th stitches, 1 treble on the 1st and 2d stitches, 4 ch., miss 4 stitches; repeat from "on

the 3d and 4th striches, 1 troble on the 1st and 2d stitches, 4 ch., miss 4 stitches, 1 troble on the 1st and 2d stitches, 4 ch., miss 4 stitches; repeat from * on the next 4, fasten off at the end of the row. The following row is worked by 1 troble on the 1st stitch in the row, 3 ch., *1 troble on the 3d and 4th of the next ch., 1 troble on the 1st and 2d of the 4fch., theh 4 ch.; repeat from *.

That PUZZING STAR.—Mrs Mary Harnick is much perplexed over the use of the star in knitting patterns. She has no trouble with other patterns, but when the * comes in she gets all wrong, etc., etc. The use of the * is really simple. It saves space in the directions, and prevents the repetition of many needless words. An iliustration will perhaps make the point clearer to Mrs. H. Suppose she is knitting a row of 24 stitches in that simple open pattern formed by making an over and knitting two stitches together with two stitches on each side for edge stitches. She would first knit 2 (for the edge), then make an over, then knit 2 together, then an over, then knit 2 together, then an over and knitting two together alternately till the last two stitches (for the edge) were reached. These should be knitted plain. Now using the star the directions for all this would be: Knit 2, * over, knit 2 together, repeat form * 9 times; knit 2. When Mrs. H. has mastered this she will have no further trouble about the stars. But she must remember that the * does not mean that the * work is to be turned.* That would make a frautiful mess of it.

Wheat Ear Edge.—A correspondent complains that "Housekeeper" did not complete the directions for making this edge. Will she kindly do so !

MY HENRY.

OR, SENTIMENT OUT WEST. John C. Walker, in The Kokomo Tribune. He's jes' a great, big, awk'urd, huikin'
Feller,—humped, and sorto' sulkin'—
Like, rather still-appearin'—
Kind-as-ef he wusn't keerin'
Whetper school helt out er not—
And that's my Henry to a dot!

Allus kindo' liked him-whether Children, er growed-up tegether! Fifteen year ago and better, Fore he ever knowed a letter, Run acrost the little feel

In my primmer-class at school! When-the teacher wasn't lookin'
He'd be th'owin' wads, er crookin'
Pins, er sprinklin' pepper, more'a
Likely, on the stove, er borin'
Gimbiet-holes up thue his desk—
Nothin' that boy wouldn't resk! But somehow, as I was goin'

On to say, he seemed so knowin'.
Other ways, and cute and cunnin',
Allus wus a notion runnin'
Thue my giddy fool-head be Jes' hed ben cut out fer me! Don't go much on prophecyin',
But last night while I was fryin'
Supper, with that man a-pitchin'
Little Henry 'round the kitchen,
Think says I, them baby's eyes
Is my Henry's jes' p'eise!

SPEAKER RANDALL AT HOME.

From The Washington Republic.

Mr. Randall's house was bought about eight years ago, before he could have had any idea of the distinction that awaited him. During his long residence here as a member of Congress he had boarded in hotels, but determined to change his mode of hie in certain respects for the better, he sought the seclusion of Capitel Hill, which was not only convenient to the Capitol, but favorable in other respects to the change he had decided to make.

The house in all respects is sung and comfortable for a small family, with every convenience necessary for a peaceful, retired life. Although Mr. Randall's tastes are simple, it is from other considerations that he lives in a small house and in a modest manner. It is not generally from choice but from necessity that people live quietly and economically. The most of us would live in a big house surrounded by every luxnry if we could afford it, and no doubt it is the case with Speaker Randall's habits and daily life are very sim-

Mr. Randall's babits and daily life are very sim ole. He is a great worker, and probably no man other House of Cougress works as many hours my as he. He takes great care of himself, ea moderately and simply, uses no wines or liquors, re-tires early, sicepalong and enjoys as a consequence perfect health. Mr. Randall goes little into society and he entertains very little at home in consequence of his small house and limited means. He gener-ally has two or three receptions during the Winter, and to these he invites a certain number of Con-gressmen, diplomats and other officials for one night and a different set for the next, until the list is exhausted. Mrs. Randall

gressmen, diplomats and other officials for one night and a different set for the next, until the list is exhansted. Mrs. Randali has her reception days every wock, and is assisted by her daughter Anna, a well-balanced accomplished girl, who has become a great favorite in society. The Speaker is not what may be called a bookish man. He is a man of affairs, rather than books. But no man in Congress keeps a closer watch on its business. He masters every question that comes up and when he became chairman of the Appropriations Committee he surprised every-bedy with his familiarity with the business. He has few books in his house, but when a great question comes up he goes to the Congressional Lebrary and has a great pile of books sent to his home, which he studies until he knows all about the subject.

Every hour in the day is occupied and his private correspondence is enormous. He writes most of his letters tuniself, and although he keeps a secretary he is still the busiest man about the Capitol. The Speaker seems to prefer little rooms to work in. His work-room in his house is small and cramped and in the Capitol he has the finniest little box down stairs which you could never find. When he is in this box nobody is supposed to know where he is. He goes there to work, and he never leaves it two minutes before the hour for calling the House to order. Many no doubt suppose that the gilded, heavy, gandy apartment called the "Speaker's Room" in the rear of the Speaker's lobby is where he does his work. Nothing of the sort. The Speaker never goes into that room except by accident. It is his only in name, but the little room, about the size of a squirrel's cage, is his sure enough, and in it he works like a squirrel—if a squirrel does work.

QUEER FOOD.

From European Ferns.

The young shoots of a handsome tree fern, Angiopter's elects, are eaten in the Society Islands; the large rizone is in great part composed of a mucilaginous ratter, from which, when dried, a kind of flour is prepared. In the same islands the young fronds or Helminthostachys zeylanica are prepared and eaten in the lame way as asparagus. The young fronds of Alsophila immutata, the "Balabala" of the Fiji Islands, are eaten in times of scarcity; and the soft scales covering the stipes of the fronds are used for stuffing pillows and cushions by the white schilers in preference to feathers, because they do not become so heated, and are times a real luxury in a sultry tropical night. In New-South Wales the thick rhizome of Blechnum cartilagineum is much eaten by the natives; it is first roseled, and then beaten so as to break away the woody fibre; it is said to taste like a waxy potato.

SCIENCE FOR THE PEOPLE.

ULTRA-NEPTUNIAN PLANETS Various circumstances have of late suggested to astronomers the probability that there exist one or more planets beyond Neptune not yet known to science. In a recent memoir before the Royal Society of Edinburgh, Professor George Forbes gives some reasons for a belief in the existence of two such planets, and indicates their probable positions. positions. His research is founded on the theory now generally held of the introduction of comets as permanent members of the solar system. According to this theory every system. According to this theory every time a comet becomes sensibly attrated by any star, such as our sun, it tends to describe about it a parabolic orbit. These orbits are transformed by planetary action into ellipses or hyperbolis, the disturbing planet being in the case of the former, near the aphelion distance of the comet's orbit. By examining the orbits of comets, it is possible on this theory to find the position and distance of the disturbing planets. Professor Forbes has followed this line of investigation in the case of all comets of the solar system having elliptical orbits. The result he arrives at is that there are two plansuit he arrives at is that there are two planets outside of Neptune, one at the distance of 100 times the radius of the earth's orbit, the other at three times that distance. The present position of the former he gives as R. A. 11 hrs. 40 min., N. P. D. 87°,; and the position of the latter R. A. 22 hrs. 0 mm., Dec. 30° N. He suggests that star No. 894 of the "Greenwich Seven Year Catalogy 1500" is reached; the water plant. logue, 1860," is probably the nearer planet.
Professor Forbes concludes: "I think that
even although we may not be absolutely certain that the position of the nearest planet is
at present in R. A. 11 hrs. 40 mm, and N. P.
D. 87°, still we may feel very confident that

these two planets do exist; and this consideration in itself is of great interest. The light eration in itself is of great interest. The light of the sun must take fifteen hours to reach the nearest of the planets, and forty-five to reach the outer one; and Alpha Centauri (the nearest of the fixed stars) is only 750 times further than the nearest one. Considering the probably enormous mass of the stars, it is nearly certain that they must influence the motion of these new planets, and if we have the good fortune to observe either of them, a new field wherein to test the extent to which the law of gravitation holds good will be immediately opened to astronomers. Our ideas of time opened to astronomers. Our ideas of time are in the same way extended when we think of these two planets revolving in periods, the one of 1,000 and the other of 5,000 years; and when we consider that some of the comets introduced by the most distant planet were influenced by that planet tens of thou sands of years ago.

A REMARKABLE STORM.

The London Times's Geneva correspondent writes under date June 20 that a remarkable electrical phenomenon recently occurred at Clarens. Heavy masses of rain-cloud hid from view the mountains which separate Friboarg from Montreux, but their summits were from time to time lit up by vivid flashes of lightning, and a heavy thundersto m seemed to be raging and a neavy thundersto m seemed to be raging in the valleys of the Avants and the Allias. No rain was falling near the lake, and the storm still appeared far off, when a tremendous peal of thunder shook the houses of Clarens and Tarel to their foundations. At the same instant a magnificent charge tree was the instant a magnificent cherry-tree near the cemetery, measuring a metre in circumference, cemetery, measuring a metre in circumference, was struck by lightning. Some people who were working in a vineyard hard by saw the electric "fluid" play about a little girl who had been gathering cherries and was already thirty paces from the tree. She was literally folded in a sheet of fire. The vine-iressers fled in terror from the spot. In the cemetery six persons, separated into three groups, none of them within 250 paces of the cherry tree, were enveloped in a luminous cloud. They felt as if they were being struck in the face with hallstones or five gravel, and when they touched each other sparks of electricity passed from finger ends. At the same time a column of fire was seen to descend in the direction of Chatelard and it is averred that the electric fluid could be distinctly heard as it ran from point to point of the iron railing of a vault in

The strangest part of the story is that neither the little girl, the people in the cemetery, nor the vine-dressers appear to have been hurt; the only inconvenience complained of being an unpleasant sensation in the joints, as if they had been violently twisted, a sensation which was felt with more or less acuteness for a few hours after. The explanation of this phenomenon is probably to be found in Pro-tessor Colladou's theory of the way in which lightning descends, recently noticed in The Tribune. The Professor contends that it falls in a shower, not in a perpendicuar flash, and that it runs along branches of trees until it is all gathered in the truck which it is all gathered in the trunk, which it bursts or tears open in its effort to reach the ground. In the instance in question the trunk of the cherry-tree is as completely shivered as it it had been exploded by a charge of dynamite.

WHY SNOW AT GREAT ALTITUDES DOES

NOT MELT. Mr. James Croil, the author of Climate and Time, gives in Nature his views as to the influence of a aqueous vapor on the meiting

point of snow: He says:

The reason why snow at great elevation does not melt but remains permanent, is owing to the fact that the heat received from the sun is thrown off into stellor space so rapidly by radiation and reflection that the sun fails to raise the temperature of the snow to the melting point; the snow evaporates, but it does not melt. The summits of the Himalysis, does not melt. The summits of the filmalyss, for example, must receive more than ten times the amount of heat necessary to melt ail the snow that falls on them, notwithstanding which the snow is not melted. And in spite of the strength of the sun and the dryness of the air at those altitudes, evaporation is insufficient to remove the snow. At low elevations, where the snowfall is protably greater and the amount of heat even less than at the summits, the snow of heat even less than at the summits, the snow melts and disappears. This, I believe, we must attribute to the influence of aqueeus vapor. At high elevations the air is dry and allows the heat radiated from the snow to pass into space; but at low elevations a very considerable amount of the heat radiated from the snow is absorbed in passing through the atmosphere.

A considerable portion of the heat thus absorbed by the vapor is radiated back on the snow, but the heat thus radiated being of the same quality as that which the snow itself radiates, is on this account absorbed by the snew. Little or none of it is reflected like that shew. Executed from the sun. The consequence is that the heat thus absorbed accumulates in the snow till melting takes place. Were the amount of aquenos vapor possessed by the amount of aqueues varior possessed by the atmosphere sufficiently diminished, perpetual show would cover our glote down to the seashore. It is true that the sir is warmer at the lower level than at the higher level, and by contact with the snow must tend to melt it But we must remember that the air is warmer mainly in consequence of the influence of aqueous vapor, and that were the quantity of vapor reduced to the amount in question the difference of temperature at the two psoitions would not be great.

PANAMA HATS.

The Jipijapa, or Panama hats, says The Journal of Botany, are principally manufactured in Veraquas and Western Panama. Not all, however, known in commerce by that name are plaited in the Isthmus; by far a greater proportion being made in Manta, Monte Christi and other parts of Females. greater proportion being made in Manta, Monte Christi, and other parts of Ecuador. The bats are worn almost in the whole American conti-nent and the West Indies, and would probably be equally used in Europe did not their high price (varying from \$2 to \$150) prevent their importation. They are distin-guished from all others by consisting only of a single piece, and by their hightness and guissed the single piece, and by their lightness and flexibility. They may be rolled up and put into the pocket without injury. In the ramy season they are apt to get black; but by washing season they are apt to get black; but by washing with soap and water, besinearing them with lime juice, or any other acid, and exposing them to the sun, their whiteness is easily restored. So little is known about these bats, that it may not be out of place to give an account of their manufacture. manufacture.
The "straw" (paja), previous to plaining, has

to undergo several processes. The graves are gathered before they unfold, all their ribs and coatser veins removed, and the rest, with-out being separated from the base of the leaf is reduced to shreds. After having been exposed to the sun for a day, and tied into a knot, the straw is immersed into boiling water until it becomes white. It is then hung up in a shady

place, and subsequently bleached for two or three days. The straw is now ready for use, and in this state, sent to different places. especially to Peru, where the Indians manu-facture from it those beautiful cigar cases, which sometimes bring as high as \$30 each. The plaiting of the hats is very troublesome. It commences at the crown and finishes at the brim. The hats are made on a block, which is placed upon the knees, and requires to be constantly pressed with the breast. According to their quality, more or less time is occupied in their completion—the coarser ones may be finished in two or three days, while the finest may take as many months. The best times for plaiting are the morning hours and the rainy season, when the air is moist. In the middle season, when the air is moist. In the middle of the day and in dry clear weather, the straw is ant to break, and this, when the hat is finished, is betrayed by knots, and much diminishes the value diminishes the value.

GEOMETRICAL ILLUSIONS. Herr Helz has called attention to an optical illusion in looking at geometrical figure whereby they appear shorter from right left than they really are; a square, e.g., appearing more or less as a rectangle, and a circle as an ellipse. One direct consequence is that as an ellipse. One direct consequence is that when we draw such figures according to eye measurement, we make them too long horizontally. The reason of the illusion Herr Holz considers to be that, in common life, we much more frequently encounter bodies than geometrical figures, and so are disposed to accept the outlines of such figures for the outlines of actual bodies. Now, we see more of a body in a horizontal direction than in a vertical because we see with two eyes, and these cal, because we see with two eyes, and these are in a horizontal line. The outline of a ball oppears to us really as an ellipse, because, from right to left, we see more than half the When we see a true circle this seems ball. horizontally shortened, because we take it for the outline of a ball, and if we draw a circle, we unconsciously give the outline of a ball.

SLAG CEMENT.

Mr. Ransome, a well-known English in-ventor of cements and artificial stones, has recently manufactured a new cement, which seems to rival Portland cement in quality and is much cheaper. The cement and is much cheaper. The cement is made of the slag sand of iron blast furnaces, with a mixture of lime in some form. naces, with a mixture of lime in some form. In Mr. Ransome's experiment, one ton of slag sand, furnished by the Tees Iron Company, was mixed with 134 tons of white Essex chalk, and subsequently burnt in an ordinary cement kiln. A still better cement, it is claimed, can be made by using slag sand containing a greater proportion. of alumina than that furnished by the Tees Company.

PHOTOGRAPHS IN A BALLOON.

In the last aeronautical ascent which was made at Rouen on Monday, June 13, by M. Jovis, M. Desmaret, one of the aeronauts, tried with success to take photographs of the land below. About fifteen different views were taken by him, and are said to be won-The car had a hole in the derfully executed. The car had a hole in the centre, and the photographic apparatus was supplied with a patent slide working in one-hundredth of a second. The photographs were of course taken by an instantaneous process,

A NEW SOUNDING LEAD.

A new sounding lead invented by M. Leventre, has a four-vaned screw at the upper part (produced by four curved bars). The rotatory motion of this screw, as the lead goes down, is transmitted to a recording apparatus in the leaf of the latter. To chain a good round. the body of the latter. To obtain a good result, the lead is allowed to descend as vertically as possible, a sufficient quantity of slack line being afforded. A cavity in the bottom of the lead serves to bring up samples of the bottom.

THUNDER AND LIGHTNING IN SOUTH AFRICA.

From Land and Water.

Natal is an awful country for thunder and .ight-Natal is an awful country for thunder and lightning, and never a Summer passes without some damage being done to both man and beast. No house is considered quite safe without a conductor. Maritzburg is rather noted for its thunderstorms, and though I have seen one or perhaps two instances of the tall blue gums of the city that had been seared from head to foot by the lightning, yet, when it is considered how numerous they are, how frequently these thunderstorms occur, and how awfully near the lightning approaches, it was astonishing how few of them had been struck. From this fact I should say the blue gum tree offers peculiar aftraction to the electric fluid; though from these cases mentioned, where the trees had been scorched but not shivered, they would seem to have acted as conductors. When on the subject of thunder and lightning I may mention two instances of the freaks sometimes indulged in by the latter. One happened on board ship on a voyage to Australia, when one of the boys standing near the foot of the mainmast or the main rigging. near the foot of the mainmast or the main rigging, I forget which, was knocked down by the fluid. He remained in a stupefied state for some little time but recovered. The lightning had made a balat patch on the crown of his head and torn the iron heels off his boots. It was several years after

patch on the crown of his head and torn the fron heels off his boots. It was several years after the accident when I made the acquaintance of the boy, and the baid patch stiil remained on the crown of his head. He was considered rather a stupid boy, but whether this was natural or the effect of the lightning seemed doubtful.

The other freak happened in Natal. Mr. W—d. a settler in Mooi River, was riding across a high rarge (Mount West) when he was overtaken by a thunderstorm; he recollected nothing more. He was found wandering about in rather a stupid state, and could not well account for his being on foot, or what had become of his horse. On search being made in the direction he was likely to have followed from the faim, his horse was found on a spur of the range, dead, and his saddle shattered to pieces. The Kaffirs believe that where lightning has struck it will strike again, and if a hut or kraal has been hit they vacate the spot and build elsewhere. They are disgusingly fond of flesh meat, and will eat sheep that have died a natural death, even when in so high a condition as to be fit only for vultures. I have seen them gorge themselves with the flesh of a sheep that had died within twenty minutes after being bitten by a make and eard eard reads are the spot and parts near within twenty minutes after being bitten by a snake, and even relish the inflamed parts near where the death bits had been given. But they will not cat a beast that has been killed by light-

THE PLEASURES OF THE ANDES.

E. Whymper's Letter in The Spectator.

The leaves cut like razors, and their points pierce like needles. The mountains hereabouts are everywhere saturated like sponges, through the incessant rains, and for days we waded rather than walked over them. The puma, tapir, and bears are common around Saraureu, and their tracks are very numerous. I saw one magnificent bear crashing through the cane as though it quite enjoyed it, and others of my party saw tapirs. One morning we found puma-tracks round our tent, but we did not see the brute.

Wild and savage cattle are also numerous around Saraureu, and are sometimes of great size and

wild and savage cattle are also numerous around Sarauren, and are sometimes of great size and power. They are escaped cattle or the descendants of escaped cattle, from the farms around Cayambe, and are sometimes very ferocious. There were two immense bulls that we saw several times, which trotted about at an amazing pace, and took leaps like chamois. J. A. Carrel was out one day trying to do a little bit of exploration, and was attacked from the rear by these beasts. He was looking over a precipies, peering into the fog, when hearing some noise behind he turned round and saw them approaching from opposite directions with lowered heads, ready to give him a lift over. He boited up a little peak, with both close in pursuit, and they kept him a prisoner for, I think, a couple of hours. Whenever he tried to escape they rished at him, but at last he succeeded by a feint in enticing them both to the same side, and scrambled down the other and outwitted them.

THE ROYAL INITIAL.

From The Queen.
The partiality of the Royal Family to the letter A The partiality of the Royal Family to the letter A as a mame initial is currous and worthy of a note. Her Majesty Queen Victoria is Alexandrina, and the Late Prince Consort was Francis Albert Augustus. Their eldest daughter is Victoria Adelaide, and their eldest son is Albert Edward. This Frince married Alexandra of Denmark, and among their children we find—L Albert Victor; 2. George Frederick Ernest Albert; 3. Louise Victoria Alexandra; and 4. Victoria Alexandra. The last, Mande, has an A. The third child of the Queen is the lamented Princes Alice, and the fourth Alfred. This Prince married Marie Alexandrowms, and their first two children are, Alfred Alexander Ernest Albert, and Mary Alexandra Victoria.

Alfred Alexander Ernest Albert, and Mary Alexandra Victoria.
The Queen's fifth child is Helena Augusta Victoria her sixth Leuisa Caroline Alberta; the seventh Arthur William Patrick Albert; and the cighth Leopold George Dancan Albert. With the last, which is Beatrice we come to the letter B, none of her names beginning with A. This peculiarity extends to other branches of the royal family. The Duke of Cumberiand has Alexander and Augustus among his mames. The Duke of Camberiand with A. Grandra and Mayastus among his mames. The Duke of Camberiand and Wilhelmina, and their children are, George Frederick, who has no A. Augusta Carolina and Mary Adelaide, Duchess of Teck, Hanover is represented by Frederick Alexander Charles.

RELIGIOUS INTELLIGENCE.

PRIME MINISTERS ON THE SUNDAY QUESTION.—A circular is being issued by the Workingmen's Lord's Day Rest Association, in opposition to the two motions introduced in Parliament for opening museums on which gives the opinious of the which gives the opinions of the late and present Prime Ministers on this question as follows: The Earl of Beaconsfield in voting against the Sunday Opening of Museums, said in the House of Lords—"Of all Divine institutions, the most divine is that which secures a day of rest for man. I hold it to be the most valuable blessing ever conceded to man. It is the corner stone of civilization, and its removal might even affect the health of the people. It (the opening of museums on Sundays) is a great change, and those who suppose for a moment that it could be limited to the proposal of the noble Baron, to open mu-seums, will find they are mistaken." Mr. Gladstone has always voted against the Sun-day opening of the British Museum, etc., and day opening of the British Museum, etc., and in reply to a departation in March, 1869, he said: "The religous observance of Sunday is a main prop of the religious character of the country. From a moral, social, and physical point of view, the observance of Sunday is a duty of absolute consequence." In a letter dated 13th January, 1876, Mr. Gladstone wrote as follows to Mr. C. Hill: "Believing in the authority of the Lord's Day as a religious institution, I must as a matter of course desire the recognition of that authority by others. But over and above this, I have by others. But over and above this, I have myself, in the course of a laborious life, signally experienced both its mental and its physical benefits. I can hardly overstate its value in this view, and for the interest of the workingmen of this country alike in these and in other yet higher respects, there is nothing I more anxiously desire than that they should more and more highly appreciate the Christian day of rest."

Camp-Meetings.—The present Summer will witness a vast deal of activity among the numerous and thriving camp-meeting associations of the country. The camp-meeting to a large extent has lost its primitive characteristics, and in the most thickly settled parts of the co try, and particularly in the neighborhood of large cities, would scarcely be recognized by those who once knew it best. Whether owing to the spread of knowledge, bringing with it a clearer sense of religious truth and sacred obligations, or to some other cause, the terrible self-arraignment for sin and the rapture of forgive-ness which made the camp-meetings of years ago the scenes of wild excitement, even if common, are less conspicuously manifested. common, are less conspicuously mannested.

Not less striking that this change of spirit, is
the change in external surroundings. The
spacious s-aside resorts, frequently owned by
Methodist organizations, and occupied from
time to time during the Summer by various educational and other associations, are as unlike the camping-grounds of thirty years ago as a Gothic cathedral is unlike a gospel tent. No doubt there still remain numerous tented No doubt there still remain numerous tented fields and groves as simple as the old campneeting grounds. Among these note camp-tive places of outdoor worship is the old ground on Sing Sing Heights where the forty-ninth annual neeting of the New-York Camp-meeting Association will be held from August meeting Association will be left from August 9 to 20. The first week will be devoted to a Sunday-school Institute, and the second to a series of sermons, accompanied by prayer-meetings, praise-meetings, Bible readings, and other informal services.

THE CREED OF THE "DISCIPLES."-The religious sect to which General Garfield belongs numbers about 500,000 communicants in this country. One of its pastors thus defines its creed and practices: "1. We call ourselves Christians or Disciples. The term "Camp-bellite" is a nickname that others have applied to us, as the early Methodists were called 'Ranters.' 2. We believe in God the Father. 3. We believe that Jesus is the Christ, the Son of the living God, and our only Saviour. We regard the divinity of Christ as the fundamental truth in the Christian system. 4. We believe in the Holy Spirit, both as to its agency in conversion, and as an indweller in the heart of the Christian. 5. We accept both the Old and the tian. 5. We accept both the Old and the New Testament Scriptures as the inspired word of God. 6. We believe in the future word of God. 6. We believe in the future punishment of the wicked, and the future reward of the righteous. 7. We believe that ward of the righteous. 7. We believe that the Deity is a prayer-hearing and prayer-answering God. 8. We observe the institu-tion of the Lord's Supper on every Lord's Day. To this table it is our practice neither to invite nor debar. We say it is the Lord's Supper for all the Lord's children. 9. We plend for the union of all God's people on the Bible and the Bible alone, 10. The Bible is our only creed, 11. We maintain that all the ordinances of the Gospel should be observed as they were in the days of the Apostles."

Sunday-school schoolars, an increase of 655; 16 ordained native pastors, an increase of 7; 4 theological schools with 87 theological students, and 94 unordained native preachers and establists. In the household preachers

AN OLD CHURCH IN VIRGINIA .- In 1710, a German Lutheran colony immigrated and set-tled in Robinson Valley, Madison County, Va. The title-deed for the ground on which they built their church, still standing, and known as the "Old Dutch Church," was made in 1720. The stout timbers uplifted then are as stout as ever, and the mortar in the foundation has hardened to the consistency of stone. The audience-room is cruciform in shape, with two side galleries and organ-loft. The inter-The high pulpit has been replaced by one of modern construction. In front of pulpit, within the altar railing, stands the baptismal bowl of silver, "made and pre-sented May 13, 1727, by Thomas Giffon, of London." This inscription is found also on the communion service. In the loft at the rear of the church stands the pipe organ. presented to the congregation by Gustavus, King of Sweden. Its pipes have faded to a dull lead color. It was made more to a dull lead color. It was made more than 100 years ago at Lutzen, Sweden, under the direction of the King, expressly for this church, and is in a very good state of preservation. The key-board is a complete re-versal in point of color, those keys being black which are white in modern instrume the raised keys being elony, faced The tone of the instrument is said to be still very good.

NEW-YORK CITY PASTORS .- Mr. L. E. Jackson, corresponding secretary of the New-York City Mission, has prepared a little pamphlet directory of the pastors of evangelical churches in this city. There are, no doubt, churches which have no settled pastor or stated supply at the present time, so that the number of pastors is probably not a perfectly accurate index to the number of churches. It is sufficlearly accurate, however, to present their practical numerical relation. From this direcory it appears that there are seventy-five Protestant Episcopal pasters, sixty-three Pres-byterian, fifty Methodist, thirty-three Bap-tist, twenty-five Reformed (Dutch), twentyfour Lutheran, seven Congregational, two Moravian, one Reformed Episcopalian, and twelve undenominational, making a total of 292 Evangelical pastors. Mr. Jackson's little pamphlet also contains much encouraging infor-mation concerning general Christian work in this city, and particularly the labors and suc-cesses of the City Mission, which in addition to its distinctly spiritual work maintains sewing-schools, helping-hand associations, em ployment societies, temperance organizations, reading-rooms, and lodging-houses.

Missions in China.-In 1845 the English Missions in China.—In 1845 the English and American missionaries in China assembled in Hong Kong, and they numbered twelve. In Hong Kong they had six converts. At the present time there are in China 240 Protestant missionaries, 90 principal missionary stations, 500 out-stations, and some 12,000 or tions, 500 out-stations, and some 12,000 or 14,000 Chimese communicants. In ladia alone there are 600 European missionaries and 430 central stations. In 1852 the converts in India were 128,000; at the present time there are 460,000. The increase from 1851 to 1861 was 53 per cent; the increase from 1861 to 1871 was 61 per cent, and during the last ten years the ratio of increase has been greater still. The last two years especially have witnessed an increase almost upparalicled, partly through the benevolent services that were rendered in connection with the famine. At this rate of progress alone, supposing it to be maintained, by the close of this century there will be one million Protestant converts in Indin.

INCOMES OF ENGLISH BISHOPS.—The heads of the Established Church in England enjoy the following annual incomes: The Archbishop

of Canterbury, £15,000; the Bishop of York, £10,000; the Bishop of Lendon, £10,000; the Bishop of Durham, £8,000; the Bishop of Winchester, £7,000; the Bishop of Ely, \$5,500; the Bishop of St. Asaph, £5,200; and the remainder not less than £4,000 and not more than £5,000 per annum, the proper average to be maintained by a revision of the not more than £5,000 per annum, as proper average to be maintained by a revision of the revenues of the various Sees every seven years. In addition to his salary, the Primate of England possesses two palaces—one at Lambeth and the other at Addington, near Croybeth and the other at Addington, near Croy-don—and in connection with the latter he was given the title to a pleasure-garden (by an order of Her Majesty's Privy Council, on the 27th of August, 1869) consisting of ever 467 acres. The amount of personal property amassed by twenty-four bishops who died during the lifteen years preceding the appoint-ment of the Ecclesiastical Commission and the three subsequent years is stated by ment of the Ecclesiastical Commission and the three subsequent years is stated by Albany Fonblanque to have amounted to an average of nearly £70,000 for each bishop.

PRESBYTERIAN MISSIONS .- A SUMMARY VIEW of the missions of the Presbyterian Board shows that they have 11 ordained missiona-ries and 1,048 communicants among the In-

ries and 1,048 communicants among the Indians of the United states; 7 missionaries and 3,907 communicants in Mexico; 11 missionaries and 1,089 communicants in South America; 7 missionaries and 601 communicants in Africa; 30 missionaries and 971 communicants in India; 7 missionaries and 206 communicants in India; 7 missionaries and 206 communicants in Siam; 22 missionaries and 1,784 communicants in China; 2 missionaries and 131 communicants in China; 2 missionaries and 131 communicants among the Chinese in California; 6 missionaries and 739 communicants in Japan; 8 missionaries and 1,321 communicants in Persia; and 14 missionaries and 810 communicants in Syria. In all, there are 125 ordained missionaries and 12,607 communicants, with 17,791 scholars in day and boarding-schools, Besides the ordained missionaries, there are 83 native ordained missionaries, there are 83 native ordained ministers and 147 licentiates, and 516 native lay missionaries. THE UNITARIAN NATIONAL CONFERENCE.-Probably no other fashionable Summer resort in the world is the annual meeting-place of so many organizations, representing so many different aims, as Saratoga Springs. Social, scientific, educational, agricultural, athletic and religious associations are equally at home there, and doubtless are none the less successthere, and doubless are none the less successful for combining pleasure and business. This year the minth meeting of the National Conference of the Unitarian and other Christian churches will be held at the Springs September 21 to 24, in the First Methodist Church, where it met two years ago. This is the fourth consecutive meeting held in toga. This conference was organized in Sara-

and has held biennial sessions since 1866. It

is probable that Western delegates will make

an urgent appeal to have the next meeting held in some city further West, and that a preposition to hold triennial instead of bien-nial sessions will be discussed. THE PERSECUTION OF JEWS. - The bitter and unreasoning hostility to Jews which was curiously illustrated not long ago by the organization of a society in Germany (somewhat similar to one which had been in existence for a considerable time), the sole object of which was an offensive and defensive opposition to that race, has been again manifested in Upper Hungary. During a fire in a small town a combined assault upon the Israelites was made, in the course of which the mest outrageous barbarities were committed. This attack was ascribed rather vaguely to "popular fury," but no explanation is made of the cause of this fury; indeed it is not intimated that there was any cause, except the unreas-oning hatred of the assailants. It is said that the civil authorities had the moral and physical courage to do all in their power to rescue the Hebrews from the mob.

The Unitarians, having been refused permission to unite with the Committee of the Raikes Centenary Celebration, have resolved to erect a memorial of their own in the fore-court of Essex-st. (London) Chapel. It will bear the following inscription: "Erected to court of Essex-st. (London) Chapel. It will bear the following inscription: "Erected to commemorate the Christian efforts of the originators of Sunday-schools (members of various churches), from the time of Cardinal Borromeo, 1580, to that of Theophilus Lind-say and Robert Raikes, 1780; in gratitude to God for his blessing on Sunday-school labors during the past century; and in fervent hope that the time may soon come when differences of opinion will no longer separate disciples of Christ in works of usefulness."

The various Protestant denominations have in Japan 117 male and female missionaries, an increase of 13 since 1878; 64 organized churches, an increase of 20; 2,701 baptized adult converts, an increase of 1,084; 2,511 Sunday-school scholars, an increase of 655; and catechists. In the hospitals under the charge of missionaries 13,286 patients have

At the Thousand Island Park, this Summer, the following programme will be carried out:
July 21-27-Scientific and Esthetic Conference, July 28-August 1—The International
Christian Temperance Camp-meeting Association of the United States and Canada. August 4-15-Sunday-School Parliament. August 16-21-The International Society for Investigating and Promoting the Science of Teaching. August 22-26-The Christian Summer Train-August 22-26—The Christian Summer Trans-ing College for Lay Workers. August 26-31— The course of lectures on Social Science.

The erection of churches made of seds is recommended to the thinly populated districts of the West. It is said that a church with walls of sods, roof covered with sods, and there is no covered with sods, and floor of earth, in size 26 by 36 feet, can be built at an outlay of \$10 in money, and that such a building, if properly constructed, is very enduring.

CURRENT RELIGIOUS OPINION.

From The Boston Congregationalist.

"To everything there is a casen, and a time to every purpose under the heaven." We wish that this text might be heeded by those fussy individuals who feel it to be their duty to make personal religious appeals to everyone whom they meet, no matter what the creumstances may be. We believe in conscientious hielity in the use of opportunities to lend our acquaintances to Christ, but the proper fulfilment of this duty neither necessitates nor permits our making ourselves an annoyance to others. Christians must be good mannered or they do not recommend their religion as they wish. Hardly anythmag else repels an usconverted person so strongly as to be addressed suddenly and before others on the subject which be instinctively feels should be treated with inviolable reverence. There is a religious flippancy which oftens manifests itself in personal appeals to the end of deteating itself. TALKING RELIGION.

THE BRADLAUGH CASE.

From The New-York Methodist.

An exciting drama has closed in the English Parliament by the admission of Mr. Bradlaugh, Afficiat and Republican. Mr. Bradlaugh has had the honor to be imprisoned for claiming ats seat and to be placed in it ruder circumstances that make it a personal triampa. The question is one of English law; and any views held by us respecting the usefulness of Atheists as legislators have no bearing on the case. Mr. Gladstone made the motion which seated Mr. Bradlaugh, and it was carried by a majority of fifty-four, about half the usual Liberal majority. In a general way, it may be said that nothing is gained by making martyrs of men who hold dangerous opinions; and that, when the people are foolish enough to elect Bradlaughs, their will must prevail over the convictions of wiser persons. wiser persons.

FRANCE AND THE JESUITS.

FRANCE AND THE JESUITS.

From the New York Independent.

The act of the Government is consistent with the principle of State supervision in religious matters. No denomination, other than these recognized is permitted to hold religious services anywhere in France without notification to the civil authorities, in conformity to the regulations. Father Hyacinthe was obliged to obtain a permit to deliver his lectures on religion in Paris. This power of supervision involves the right to prevent any public worship which is deemed prejudicial to the peace and welfare of the authorized religions and of society. But there is also beth a religious and a political basis for the action of the Government. It it has the right to supervise the schools of the country and protect fiself against such teaching as tends to the subversion of the Republic by the poisoning of the minds of the youth, in whose hands the future of the country must fall, it has acted consistently in suppressing the Jesuit establishments. As to the wisdom and expediency of suppressing the Jesuit institutions in France, the verifict of the future is likely to be unfavorable. It is regarded as a persecution, and persecution always begets sympathy; so that, in the end, the Government may suffer for the attempt to secure a result by the exercise of its power where milder means could have been employed. The Jesuits do not deserve to be made martyrs of.